CLAIMS:

1. A method for generating a spatial roadmap (12) representing an envisaged trajectory of an interventional device (13di) within a target organ (1), said method comprising the steps of:

- acquiring image data (D_{i-1}, D_i, D_{i+1}) of detectable markers (5a-5d, 7a-7d) arranged within the target organ (1);
- constructing a motion-corrected target organ-oriented three-dimensional coordinate system (10) using said image data (D_{i-1}, D_i, D_{i+1});
- deriving a respective spatial position information ($5c_x$,$5c_y$,$5c_z$) of the detectable markers within the motion-corrected target organ-oriented three-dimensional coordinate system (10);
- constructing the spatial roadmap (12) within the target organ (1) by interrelating the respective spatial position information ($5c_x$,$5c_y$,$5c_z$) of the detectable markers (5a-5d, 7a-7d).

2. A method according to Claim 1, said method further comprising the steps of:

- acquiring a set of readings (31,33,35) at their respective measurement locations within the target organ using an interventional measurement catheter;
- presenting the set of readings on the spatial roadmap (40a).

3. A method according to Claims 1 or 2, wherein the method further comprises the steps of:

- acquiring further image data (I1,I2) of a displaceable catheter (13di) in the target organ (1) for a dwell position of the displaceable catheter, said displaceable catheter comprising further detectable markers (13a), said further image data comprising images of detectable markers (5a-5d, 7a-7d) and further detectable markers (13a);
- deriving further respective spatial position information ($13a_x$,$13a_y$,$13a_z$) of the further detectable markers of the displaceable catheter within the motion-corrected target-organ oriented three-dimensional coordinate system (10).

4. A method according to Claim 3, wherein the method further comprises the step of:

- matching further respective spatial position information to the spatial roadmap automatically (40a,40b).

5. A method according to any one of the preceding Claims, wherein for purpose of derivation of a motion-corrected target organ-oriented three-dimensional coordinate system (10) an image acquisition by means of a rotational scan (I) of an X-ray source around the target organ is carried out.

6. A method according to any one of the preceding Claims 1-4, wherein for purpose of derivation of a motion-corrected target organ oriented three-dimensional coordinate system (10) an image acquisition of the target organ by means of a magnetic resonance apparatus is carried out.

7. A system (100) for generating a spatial roadmap representing an envisaged trajectory of an interventional device within a target organ, said system comprising:

- a catheter (182a,182b, 185) arranged with detectable markers, said detectable markers being conceived to be positioned within the target organ;
- a data acquisition system (100a, 113) arranged to acquire image data (D_{i-1}, D_i, D_{i+1}, I, I1, I2) comprising the detectable markers;
- computation means (160) arranged to:
  - o construct a motion-corrected target organ-oriented three-dimensional coordinate system (10) based on said images;
  - o derive a respective spatial position information ($207a_x$, $207a_y$, $207a_z$, $207b_x$, $207b_y$, $207b_z$)of the detectable markers within the motion-corrected target organ-oriented three-dimensional coordinate system (10);
  - o construct the spatial roadmap (210) within the target organ by means of interrelating the respective spatial position information of the detectable markers.

8. A system according to Claim 7, wherein said catheter is further arranged to acquire readings at their respective locations within the target organ, said computation means (160) being further arranged to present said readings on said spatial roadmap.

9. A system according to any one of the preceding Claims 7 or 8, wherein the system further comprises a displaceable catheter (208) conceived to be displaceably arranged within the target organ (204), said displaceable catheter being arranged with further detectable markers (208a), the data acquisition means being further arranged to acquire further image data of the detectable markers and the further detectable markers for a dwell position of the displaceable catheter, the computation means being further arranged to derive further respective spatial position information ($208a_x$, $208a_y$, $208a_z$) of the further detectable markers within the motion-corrected target organ-oriented three-dimensional coordinate system (10).

10. A system according to any one of the preceding Claims 7-9, wherein the computation means (160)is further arranged to match the further respective spatial position information of the further detectable markers to the spatial roadmap (210,212).

11. A system according to any one of the preceding Claims 7-10, wherein the system further comprises navigation means (190) conceived to position the catheter and/or the displaceable catheter (182a,182b,185) within the target organ.

12. A system according to Claim 11, wherein the computation means is arranged to control (S) the navigation means in order to conform the further spatial position information to the spatial roadmap (210,212).

13. A system according to any one of the preceding Claims 7-12, wherein said system further comprises a user interface (30,200) arranged to feedback a three-dimensional image of the spatial roadmap (40a, 210) and the spatial position of the catheter and/or the displaceable catheter.

14. A system according to Claim 13, wherein the user interface is arranged to present a further three-dimensional image comprising the target organ (204).

15. A quality control system (160') arranged to guard a spatial accuracy of a system as claimed in any one of the preceding Claims 7-14, said quality control system comprising:

- means (162) for recording a spatial position of detectable markers;
- means (162') for monitoring the spatial position of the detectable markers;
- means (164) for signalling a displacement of any of the detectable markers during an intervention;
- means (166) for calibration of the motion-corrected organ-oriented three-dimensional coordinate system to yield a new motion-corrected organ-oriented three-dimensional coordinate system using the recorded spatial position of the detectable markers;
- means (168) for calibration of the spatial roadmap for the new motion-corrected organ-oriented three-dimensional coordinate system.

16. A quality control system according to Claim 15, wherein said system further comprises means (170) for conforming a path of a displaceable catheter to the spatial roadmap.

17. A quality control system according to Claim 16, wherein the displaceable catheter is being positioned by means of a guiding system (190), the means (170) for conforming a path of the displaceable catheter to the spatial roadmap being arranged to communicate (S) to said guiding system (190).